Improving accounting student writing skills using writing circles

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ABSTRACT

An ongoing debate exists as to whether writing should be taught in accounting classes. We took on this challenge and found accounting student writing can be improved without overburdening faculty members, requiring very little class time. This article proposes using a peer review method, called writing circles (WCs), that takes 15 min to teach and can improve the quality of student writing. WCs require three or four individuals to meet regularly to give each other feedback on writing projects using a prescribed methodology that evaluates key sentences. Given the call to improve accounting students' writing skills, we tested WCs in our classes, collecting empirical evidence to measure its effectiveness in three studies. After attending WCs, we found student writing improved allowing us to concentrate on grading content instead of grading writing. We administered the WCs in four different accounting classes at three different universities – two accounting information systems (AIS) classes, a tax class, and an advanced accounting class. At University A, we compared the writing between students in WCs and those tutored at the university learning center (LC) and found comparable results except for students going to WCs scored higher in grammar. At University B, we found that WCs helped students improve the writing of their one-page tax research memos, mainly in focus and style. Surprisingly, a methodology designed to improve writing also sparked classroom debates about solutions, which helped students write richer solutions through socially constructed knowledge. At University C, we found that WCs again helped students better organize and focus their papers. As a result of our studies, we believe WCs can move a number of students along the writing continuum to better writing. At all the universities, students expressed above-average satisfaction with their overall writing experience, except for a few students with advanced writing skills who preferred the help of writing tutors. Finally, we provide step-by-step instructions and rubrics so you can adopt WCs for your classes.

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1. Introduction

Improving accounting students' writing skills has been an enduring issue of concern in accounting education for several decades. Researchers have reported accounting graduates as deficient in communication skills as early as 1980 (Ingram & Frazier, 1980). In 1986, the Bedford Committee on the Future Structure, Content, and Scope of Accounting Education encouraged educators to develop accounting students' writing skills (AAA, 1986). In *Charting a Course through a Perilous Future*, Albrecht and Sack (2000) reported that practitioners ranked writing as the "most" critical skill needed by students and faculty ranked it second. In *Teaching What Matters*, Hurt (2007) identified writing as a key skill needed by accounting professionals. Finally, a joint IMA/AAA MAS[1] Curriculum Task Force presented a general framework for accounting education and listed "communications" as one of the five foundational competencies needed for accounting students' long-run career success (Lawson et al., 2014).

This need for improved writing skills continues today (AICPA, 2015). Preparing clear and concise communications is an essential part of the new leadership component of the 2019 IMA competency framework (IMA, 2019; Lawson, 2019). The *CPA Horizons 2025 Report* also lists writing skills as one of the core competencies needed to be a successful CPA (AICPA, 2011). Nearly everyone, including recruiters and CPA firm partners, agrees accounting graduates need better writing skills, yet our students are still lacking in this area (AAA, 2013; Jones, 2011). The joint IMA/AAA MAS Curriculum Task Force (Lawson et al., 2014) listed competencies that *all* accounting majors lacked, again including writing skills. Although efforts to improve writing skills have been attempted in the past, researchers still report accounting graduates lack the written communication skills needed to become successful professionals (Jones, 2011; Lawson et al., 2014; Matherly & Burney, 2009; Reinstein & Houston, 2004).

Accounting educators might ask, "Why hasn't more progress been made in improving accounting students' writing skills to date?" As early as 1986, Corman wrote that excellent writing is "an important part of an accountant's professional education," but asked like many educators do today, "Who should teach writing?" Corman contends that writing skills should be honed by "instructors who teach technical courses." He suggests that "accounting instructors should provide … opportunities [to students] to practice written communication skills" (Corman, 1986, 85). The Pathways Commission, created by the AAA and AICPA, charted a national strategy for the next generation of accountants and presented writing skills development as a "curricular" issue (Behn et al., 2012). Riley and Simons (2016) asked accounting practitioners (n = 136) and academics (n = 88) to evaluate 27 sentence pairs - one correct and one with a writing error which could be grammatical, spelling, punctuation, or sentence clarity. While all the errors bothered the respondents, they were especially bothered by grammatical and spelling errors. Understanding that faculty time is limited, the researchers recommended that faculty devote time to teaching writing in areas that bothered professionals the most.

We agree that teaching writing skills to accounting students may be a curricular issue. Rebele and St. Pierre (2019) questioned the value of using class time to teach soft skills because it reduces the class time available to teach technical skills. Thus, we also recognize that teaching writing can feel burdensome to faculty unless the technique used is easy, effective, and quick. Thus, we decided to test in the accounting classroom at three universities a peer editing method called writing circles (WCs) that we learned at a writing workshop.

In our first study, we measured the effectiveness of WCs by comparing the grammar, style, and focus of writing assignments for students who used WCs versus students who went to the university writing center (LCs) for help. We found WCs present a useful and perhaps more effective way to improve student writing skills than LCs. Also, most students preferred WCs over LCs.

In our second study, a tax professor planned to replicate the first study with a tax memo writing assignment, but students protested going to the LC. Instead, she swapped 20-minutes of lecture time for the WCs and monitored what happened. The professor found that students debated content in their WCs leading to richer solutions. In addition, two independent evaluators scored the tax memos detecting improvement in both style and focus after students participated in WCs.[2]

In our third study, an advanced accounting professor assigned students to WCs, and again two independent evaluators reviewed the writing for pre and post essays for advanced accounting problems from the textbook. They found that the WCs helped the students most in improving the organization of their papers.

After using WCs in three different contexts, we are confident in our recommendation that faculty consider using WCs to improve students' writing. This article is organized as follows. First, we review the literature on writing development. Next, we discuss how we used WCs in our accounting classes. Then, we provide the methodology and evidence that support the efficacy of WCs. We conclude by discussing the implications for accounting education, limitations, and future research. Guidelines to implement writing circles are presented in the appendices including instructions and a handout so you can use WCs in your accounting classes.

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[1] IMA is the Institute of Management Accountants (IMA). AAA MAS is the Management Accounting Section of the American Accounting Association (AAA).

[2] We use LC as an acronym for "Learning Center" which might include a writing center. We use "WC" as the acronym for "Writing Circles."

2. Background

2.1. Learning through writing

Understanding the process of learning how to write can help us design better writing programs (Booth, Luckett, & Mladenovic, 1999). Learning how to write is a complex process that takes many years to master. Kellogg (2008) describes the writing process as one that develops over two decades as students learn composition from late adolescence to young adulthood. He portrays a linear model of writing maturation as one with three stages: (1) beginning – telling what one knows, (2) intermediate – writing is transformed for the author's benefit, and (3) final – writing is for the reader's benefit. Kellogg (2008) believes students learn writing skills through writing programs that emphasize deliberate practice.

The theory of social constructivism offers a slightly different explanation as to how students learn to write. Social constructivism suggests that learning occurs as students construct knowledge together (Vygotsky, 1986). Real learning happens as students take new knowledge and integrate it with their prior knowledge (Zirbel, 2005). This method requires teachers to encourage students to make sense of their thoughts by themselves and with others (Zirbel, 2005).

2.2. Methods to improve writing

Various methods can be used to help students improve their writing skills. Techniques include using experts such as tutors at a campus LC, peer review techniques, and feedback from instructors. LCs provide one-on-one tutoring sessions for students with an expert writer. Peer review, popularized in the 1970s, occurs when students help other students improve their writing in a friendly atmosphere (Elbow, 1973). In some cases, instructors provide writing support by adding writing instruction to their classes and/or give direct feedback to students on projects (DaCrema & Stout, 2012; Stout, 2014).

Accounting educators have used a variety of additional methods including scaffolding, rubrics, writing modules, and web-based learning. Scaffolding provides students with a detailed structure. For example, giving students a clear set of guidelines significantly improved the readability of students' papers when writing about SEC reports (Reinstein & Houston, 2004). Using a rubric for self-assessment also increased writing scores (Sin, Jones, & Petocz, 2007). Wygal and Stout (1989) adopted writing modules for upper-level accounting classes which improved students' writing skills. Finally, a web-based practice and feedback program improved the writing skills of tax students (Cleaveland & Larkins, 2004).

Changing students' opinions about writing could also be key to motivating them to write better. Researchers found that accounting majors do not value the development of writing skills as highly as technical skills. For example, on a 7-point Likert scale, students rated learning math at 5.91 compared to writing at 4.59, indicating students prefer math skills over writing skills development, thereby highlighting a potential problem in motivating students to develop their writing skills (Meixner, Bline, Lowe, & Nouri, 2009). Bacon, Paul, Johnson, and Conley (2008) advised faculty to make a coordinated effort to convince students that writing skills are essential for their success. Therefore, when improving writing, students' emotions should also be considered. Faris, Golen, and Lynch (1999) found that accounting majors showed a significantly higher degree of writing apprehension than non-accounting majors. Marshall and Varnon (2009) found 17% of accounting students experienced high writing anxiety. Interestingly, DeLespinasse (1985) discovered that writing assignments not only improved writing but increased student interest and confidence as well. Practicing writing seems to help students gain confidence which may result in lower writing anxiety and better papers.

2.3. Improving student writing with peers

Peer review appears to help students learn, supported by the theory of social constructivism. In accounting, on-line peer-assisted learning has enhanced students' learning experiences and improved performance when students assessed each other's work in a forum (Sudhakar, Tyler, & Wakefield, 2016). Phillips (2016) found that sophomores were able to give reasonably reliable feedback to peers on-line. Peer assessment also replicates the type of evaluation students might encounter in the workforce (Liu, Pysarchik, & Taylor, 2002).

Peer review is known to improve students' writing skills in accounting classes. Matherly and Burney (2009) used peer-review and gave students opportunities to revise their written assignments. They reported significant improvement in student writing scores. In addition, Plakhotnik and Rocco (2012) found that peer-review worked well for adult students because students received feedback in a friendly atmosphere. Washburn (2008) also found that peer review helped students overcome a lack of confidence. She argued that peer review is effective because participants have the common goals of receiving and giving help to each other. Finally, Bacon et al. (2008) found that repeated use of students' editing skills also improved students' writing skills.

3. Using writing circles in accounting classes

For students to improve in writing, they must practice writing in their classes, but often constraints get in the way. These constraints include a lack of tutors at the LC, lack of professor time and class time required to develop those skills, and a lack of desire by students to seek help on campus. WCs counter these difficulties by offering an easy peer-review technique that

takes about 15 min of class time to learn. Also, students receive a one-page hand-out, a type of scaffolding, with step-by-step instructions on how to organize and manage their WCs as explained in Appendix A.

Gray (2005), author of *Publish and Flourish*, created WCs as a way for faculty to increase writing quality and research productivity. Boice (2000) conducted research that showed that faculty that wrote daily and reported to a group, published 157 pages a year compared to 17 pages a year to those who worked independently. WCs consist of a group of participants who meet regularly to provide support and feedback about each other's writing projects. Most groups consist of three to four members that meet weekly or twice a month for one hour. Members bring two to three pages of their writing, and group members begin their review by circling the key sentence in each paragraph (sample in Appendix B).

Initial training on WCs will take about 15 min of class time. First, the instructor should give students the instruction sheet in Appendix A. Then the instructor could give students a sample page of writing and ask them to circle key sentences on the paper. Alternatively, the professor could ask students to bring their own writing samples to class and allow students to practice on each other. Once students are familiar with the process, they are ready to form their own WCs.

When meeting outside of class, one member serves as a timekeeper to make sure the group remains on task. For example, if there are three members, then 20 min would be allocated per member. Participants will read the paper for 10 min, circling the key sentence in each paragraph. Often it is the first or second sentence, but at times, it can be the last sentence. Also, sometimes the key sentence is clear, and at other times, there are several key sentences or no key sentence at all.

In the next 10 min, the other two members discuss each paragraph and key sentence with the writer who remains silent. The writer is not permitted to explain the "why," but simply to listen and learn. If there is no clear key sentence or more than one key sentence, writers can see what they need to improve in their papers thereby developing their writing skills.

The readers also share grammatical or punctuation errors with the writer. Near the conclusion of the 20 min, the readers can also discuss how the writer might improve the writing sample allowing for increased writing clarity and thought development. Then the group repeats this method for the next two participants. Detailed implementation guidelines are included in the next section and Appendix A.

4. Implementation instructions

Professors should give these instructions to students:

Step 1: Before you arrive:

- Write your thesis statement (if applicable) on the top of your paper.
- Make four copies of a two-page rough draft of your paper
- In your own copy of the rough draft, find the key sentence for every paragraph.
- Be on time.
- Place your rough drafts face down so the first writer to arrive has his or her paper read first.

Step 2: Before you start:

- Divide time evenly between writers (as in 3:00–3:15, 3:15–3:30, etc.).
- Appoint a timekeeper to help the group stick to the schedule.
- First time you meet, and as needed, review ground rules (below) for readers and writers.

Step 3: Review the Ground Rules:

Readers: Do not pass judgment on what you read. Tell the writer which sentence the key sentence is, and why you think so or why you are unclear between sentences. Remember that the main purpose of writing circles is to motivate the writer to want to write better. Asking, "Do you mean X or Y here?" is more motivating to a writer than saying "This is unclear," because the writer doesn't intuitively know what is unclear or how to make it clear.

Writers: During the time that your paper is discussed, focus your attention on listening, asking questions, taking notes, and moderating. Moderating should be empowering and should help reduce the "sting" of having your work criticized. Instructions for how to moderate are below, but the most important thing is this: avoid talking too much and explaining what you were trying to say. Instead, just look at the words on the paper and try to see your words through the reader's eyes.

Step 4: Time Allocation:
First 5 min: Read and search for keys

- Readers: Identify a key sentence for each paragraph. If time allows, re-read only the key sentences (an after-the-fact outline) as you consider organization and purpose.
- Writers: Pretend you are just another reader and do the exact same things the other readers are doing.

Second 5 min (or more): Discuss keys

- The writer asks, "In paragraph #1, which sentence is the key (#2, #3, #4, etc.)?"

- If readers disagree, discussion ensues.
- If readers agree: The writer skips ahead to the next question, "What else (i.e., other suggestions or comments) in this paragraph?"
- Repeat for each paragraph.

Third five minutes (or less): Discuss other topics

- The writer asks, "What works in this paper?" "What aspects should I keep as I make changes?"

Step 5: Repeat Step 4 for the next writer

5. Methodology

The authors adopted WCs at three different public universities for their classes – University A in two AIS classes, University B for an individual federal tax class, and University C for an advanced accounting class. All the universities are AACSB-accredited and offer master's degrees.

5.1. Study 1 at University A – AIS class

The setting for this class is at a public university in the southeast USA with about 5,000 students. The AIS class was designated as a writing-intensive course as part of a *Writing-across-the-Curriculum* initiative at the university. The writing project, developed by the professor, included a student-written case study on either a fraudulent situation or about internal controls in a business familiar to the student. The case had four parts: (1) an introduction, (2) background/additional information, (3) the problem statement, and (4) a solution/conclusion. The required format is not unlike reports that accountants might prepare for their supervisors or clients.

The students submitted the case in four stages, turning in the introduction first. The professor graded the introduction using the rubric in Appendix C. Next, the students either participated in coaching by going to their WCs or the LC, thereby allowing them to revise the first graded section. After the first coaching session, the students turned in the second section of the case along with the revised first section. The professor then graded the document using the same rubric. The students, revising their papers, then participated in a second coaching session with their WCs or at the LC. These steps were repeated for the third and fourth sections of the case.

The professor randomly assigned students into WCs or to go to the LC. Attendance at the groups was mandatory and the class syllabus specified meeting dates. Students in the LC group made coaching appointments within the required time frames. The first WC session met outside of class time with the professor attending to make sure students understood the instructions. She did not participate in the WC sessions after the first meeting.

5.2. Study 2 at University B – Individual federal tax class

The setting for this class is at a university in the Midwest, USA with 13,000 students. The tax class was designated as part of the writing assessment program for the department. The writing project included a tax research memo written to a client to address a tax question using primary tax sources. The memo had four parts: (1) statement of issue or problem, (2) review of pertinent tax issues, (3) discussion of support, and (4) a solution. The professor graded the memos with the rubric in Appendix D, which was developed in a prior semester in collaboration with two tax partners at local CPA firms.

The professor initially planned to replicate Study 1, but students protested so she then gave them the option of attending WCs or going to the LC. All the students opted for the WCs, saying they did not have time to make appointments at the LC. The students, who were mainly commuters, asked for class time to meet with their WCs since meeting outside of class was also difficult for them. As requested, the professor allowed class time for the WCs which also let her observe the learning experience for this study.

The professor thought the WC experience of reading and editing each other's work would also help prepare students for the "document review simulations" on the CPA exam, introduced in June 2016. These simulations require candidates to sort through information provided in related documents (i.e., ledgers and emails) to determine what information is relevant and make changes and/or edits to a document such as a memorandum as appropriate (AICPA, 2016). Since the WCs require peer editing, students can practice their higher-order critical thinking and editing skills.

Initially, the professor took 15 min to teach the students WC techniques by putting them into groups, handing out a writing sample, and asking them to circle the key sentences in each paragraph. The students then discussed the key sentences and the class debriefed with the professor.

Next, the students used the WCs to evaluate each other's tax research memos, which occurred twice during the semester. Since the tax memos are about a page long, the professor only allocated about 20 min of class time for groups of three to do their work. The first WCs served as a practice round. For the 2nd WCs, the professor collected and graded the pre and post-

WC tax memos. By the 3rd tax memo, the professor determined the WCs were no longer necessary since most students could then write an exemplary tax memo.

5.3. Study C at University C – Advanced accounting class

The setting for this class is at a public university in the southeast USA with about 14,000 students. To further evaluate the effectiveness of WCs, the method was applied in an advanced accounting class.

The students wrote a short research and analysis report using the Financial Accounting Standards Board Accounting Standards Codification (FASB ASC). The professor assigned each student a different research topic from the book to make sure students did their own work. The students submitted their first report for a class grade and then participated in the WCs. After the WC, the students revised their reports based on the feedback received from their classmates.

The professor held a 15-minute WC training session at the beginning of the 90-minute class time. She gave students the WC handout with detailed instructions and read those instructions out loud to make sure students understood the process (Appendix A). The students practiced one round of WCs in class with the professor serving as the timekeeper. Students were then randomly assigned to WCs of three to four students who met outside of class.

6. Results

Regarding the overall project efficacy, we present the results from the studies conducted offering both qualitative and quantitative data analyses with positive outcomes. [3] Each study within each university used independent faculty evaluators to score pre and post-WC writing projects to assess the effectiveness of the WCs. In addition, students completed satisfaction surveys to collect qualitative feedback.

Evaluators used a rubric that Corman (1986) developed for accounting writing programs as mentioned earlier in this article. The rubric in Appendix C assesses writing for (a) focus, (b) style, and (c) grammar. *Focus* requires that the main point be identified and supported. *Style* denotes tone, effectively organizing sentences and paragraphs, and the appropriate information for the essay. *Grammar* signifies students' use of proper spelling, punctuation, tenses, and rhetoric in their essays. The rubric scores ranged from 0 to ½ (does not meet expectations), 1 to 1½ (meets expectations), and 2 (exceeds expectations).

6.1. Study 1: Writing objectives at University A

The professor and evaluators scored essays at University A. As for meeting basic learning objectives of writing, 100% of the students met those objectives when graded by Professor A using the writing assessment rubric. Professor A scored two sets of essays related to the course project (see Appendix B for examples of students' essays). All students, both those assigned to WCs or the LC, either met or exceeded the learning objectives and the methodology (see Table 1).

6.1.1. Study 1: Comparing writing results for WCs and LCs at University A

We also conducted a quantitative analysis to compare the effectiveness of WCs and the LC with 34 students randomly assigned to participate in WCs (n = 16) or go to the LC (n = 18) for feedback on their writing assignments. Faculty evaluators scored a case study from the GMAT with the same question posed in the pre-test and post-test.[4] The evaluators (independent of the instructor) scored essays using the same writing rubric in Appendix C with the three categories: (a) focus, (b) style, and (c) grammar.

Raters did not know which semester, which group (WC or LC), or whether the essays from the GMAT were the pre-test or post-test essay. The reviewers initially scored eight essays, compared their results, and discussed the rubric for clarity. They then scored the remaining essays independently. Afterward, they met and discussed discrepancies in scoring and came to a consensus score for each essay. The inter-rater reliability score for the independent raters was satisfactory at 0.633. According to various benchmarking tables (Gwet, 2010), agreement of 0.633 is considered substantial (Koch-Kappa), intermediate to good (Fleiss' Kappa), or good (Altman's Kappa), depending on which rating system is used.

The demographic characteristics of the two groups were compared; both groups were statistically similar. Spearman correlations of the variables were calculated with the pre- and post-test scores and with the delta scores. Un-tabulated results indicate that treatment groups are not significantly correlated with pre-treatment measures or demographic data. Statistical testing did not find differences between the WC and the LC group characteristics which supports the benefits of random assignment.

A comparison of mean values for the WCs and LCs for focus, style, and grammar showed that WCs students improved in grammar and style, but not in focus from the pre-test to the post-test on the GMAT essay. On the other hand, LC students' means declined in grammar, style, and focus. This was surprising and unexpected. Also, the average scores of the final project of the WC students were higher than those of the LC students for focus, style, and grammar. The comparison of the scores between WCs and LCs on the GMAT essay is presented in Table 2.

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[3] IRB clearance was obtained at University A, University B, and University C for this article.
[4] We selected a GMAT question because this exam is standardized, and the questions used have been developed by testing experts.

Table 1
Detailed assessment rubric.

	Unattained	Meets	Exceeds
Objective 1: Focus			
Fall: AIS students	0	6	10
Spring AIS students	0	11	7
Total	**0**	**17**	**17**
Percentage	**0%**	**50%**	**50%**
Objective 2: Style			
Fall: AIS students	0	8	8
Spring: AIS Students	0	12	6
Total	**0**	**20**	**14**
Percentage	**0%**	**59%**	**41%**
Objective 3: Grammar			
Fall: AIS students	0	8	8
Spring: AIS students	0	6	12
Total	**0**	**14**	**20**
Percentage	**0%**	**41%**	**59%**

Table 2
Comparison of scores on pretest, posttest, and final project.

Variable	Writing circles						Learning center					
	Pretest		Posttest		Final Project		Pretest		Posttest		Final Project	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Focus	1.13	0.42	1.06	0.35	1.38	0.43	1.19	0.52	0.94	0.48	1.31	0.42
Style	0.97	0.42	1.00	0.52	1.31	0.31	1.19	0.52	0.89	0.47	1.19	0.35
Grammar	0.78	0.45	0.94	0.51	1.47	0.43	1.00	0.34	0.72	0.39	1.28	0.26

S.D. stands for standard deviation.

These differences, however, were not statistically significant, except for grammar.

A paired t-test of pre- and post-test scores on the two groups found that students' pre- and post-test scores (focus and style) are statistically identical, regardless of whether students went to the WC or LC. The correlation analysis for the delta scores shows that the difference between pre- and post-scores for focus, style, and grammar is positively related to the WC Group, though only the correlation between grammar and group is significant (Table 3).

Study 1 concludes that both the WCs and the LC were effective in helping students meet the university's learning objectives for writing. However, when comparing the two methods, WCs were more effective in developing grammar skills.

6.1.2. Study 1: Student satisfaction surveys at University A

At the end of each semester, the professor from University A measured students' perceptions of their experience with WCs and the LC (Appendix E). She wanted to know if students felt apprehensive about going to the LC or if students preferred working with peers rather than tutors.

To determine student preferences at University A, a survey measured student satisfaction levels with WCs and the LC (n = 34). The satisfaction survey was adopted from Galer-Unti (2002). It consisted of ten questions using a Likert-type scale (5 = strongly agree to 1 = strongly disagree) and open-ended questions.

Depending on whether the student went to WCs or the LC, students answered the questions, either "If you participated in the WCs, do you think you would have preferred to go to the LC instead? Why?" or "If you went to the LC, would you have preferred to participate in WCs? Why?"

Using a Wilcoxon score rank-sum test analysis of the satisfaction survey (Table 4), WC students reported statistically significant higher satisfaction than the LC students for Q3: writing assignment contributed to my learning ($p < 0.01$), Q4: comments received from my professor was useful ($p < 0.10$), Q5: additional comments received from (WC or LC) on my written work were helpful ($p < .10$) and Q9: course examinations had appropriate writing exercises ($p < .10$). Overall, WC students also appeared to be more satisfied with their learning experience than students going to the LC. This finding is consistent with conclusions by Cho and MacArthur (2011) where students enjoyed the peer review experience.

6.1.3. Study 1: Student comments about WCs at University A

As mentioned previously, students at University A were asked whether they would have preferred to be part of the other group (WC vs. LC) and why. All the WC participants' comments were positive. First, the students liked, "*working with a small group and getting feedback and help with my paper.*" Students enjoyed the camaraderie writing: "*[I] felt very comfortable asking my classmates questions,*" and another wrote: "*I like having the same two people review my material instead of possibly two people randomly assigned at the learning center.*"

Table 3
Non-parametric tests of group differences.

	Median		Mann-Whitney-Wilcoxon Test		Kruskal-Wallis Test	
	Learning Center	Writing Circles	w-values	p-values	χ^2	p-values
Delta-Focus	−0.25	0.00	122.5	0.456	0.58	0.445
Delta-Style	−0.25	0.00	114.0	0.296	1.13	0.288
Delta-Grammar	0.00	0.00	83.0	0.023	5.28	0.022

Delta-Focus: score changes in focus pre- and post-test; Delta-Style: score changes in style pre- and post-test; and Delta-Grammar: score changes in grammar pre- and post-test.

Table 4
University A – comparison of survey responses.

Questions (Q)	Writing Circles (n = 16)[+]		Learning Center (n = 18)[+]	
1. The course improved my writing skills.	4.18		4.00	
2. The course helped me develop my critical thinking skills	4.43		4.33	
3. The writing assignment contributed to my learning course content	4.38	**	3.83	**
4. The comments I received from my professor on my written work was useful	4.75	*	4.33	*
5. The additional comments I received from (WC or LC) on my written work was helpful	4.31	*	3.83	*
6. I understood what was expected of me on writing assignments	4.33		4.06	
7. Opportunities to revise my work was helpful	4.69		4.39	
8. The amount of writing in this course was reasonable	4.13		4.11	
9. The course exams had appropriate writing exercises	4.25	*	3.94	*
10. I feel more confident of my writing abilities than I did when I entered the course	4.19		3.72	

Statistically significant at $p < .01$** $p < .10$*.

[+] Sum of WC and LC students equal total students over two semesters.

Second, all the WC participants preferred the WC over the LC for academic reasons. First, peers tended to know the subject matter and gave constructive feedback. One student wrote: "*The writing circle is better; peers know the subject matter* vs. *learning center student helpers.*" Another student answered that "*Participants in the writing circle were honest and gave constructive criticism which was helpful.*" In addition, WCs offered more thorough feedback. One student wrote: "*The LC review[ed] grammatical errors; the WC gave feedback on your paper and how to improve it.*"

Third, WCs were easier to schedule. One student wrote: "*[I] liked working with classmates. Meeting times worked better than the more limited LC schedule.*"

6.1.4. Study 1: Student comments about LCs about University A

Only half of the LC participants at University A preferred using the LC over WCs. The positive feedback on the LC included convenience: "*[I] could go to the LC when convenient for me.*" Contrary to the WC student comment, one LC student viewed having different tutors as positive, writing "*You have a different tutor each time, thus different opinions and suggestions.*" Academically, some students felt that the tutors at the LC "*were more knowledgeable than my classmates*" and could offer "*tips to make my writing clearer*" and "*offer good brainstorming methods.*"

Criticisms of the LC mirror what WC participants found advantageous about WCs. One LC student felt WC students had an advantage because "*participating in a WC allows students to communicate about topics efficiently and at least allows students to get some ideas when reading others' papers.*" In addition, sometimes LC feedback conflicted with the professor's feedback: "*Feedback from the LC clashed with the feedback from the professor. I think WC would be more useful because students know what is going on and what is expected.*" Again, another student echoed this complaint: "*LC tutor did not understand the assignment and could not answer questions or give examples or explanations.*" Finally, another complained about scheduling: "*Not pleased with LC feedback and hours of operation, I would have preferred peer review.*"

These comments echo the benefits of peer review given in the literature. Student comments about the WCs were overwhelmingly positive suggesting the peer-review experience worked. Students found feedback helpful, liked working with each other, and enjoyed easier scheduling. Reviews for the LC were mixed with students split about the usefulness of the feedback emphasizing the lack of content knowledge on the part of the LC tutor as a drawback.

6.2. Study 2: Writing objectives at University B

Since all the students participated in the WCs in class, there were no WC and LC measures to compare. We did measure WC effectiveness, however, by evaluating the student tax memos before and after attending the second in-class WC session. Two faculty evaluators (independent of the instructor) evaluated the tax memos of students at University B using the writing rubric in Appendix C for the three categories: (a) focus, (b) style, and (c) grammar. The inter-rater reliability score for the

independent raters was 0.41 which is considered moderate (Koch-Kappa), intermediate to good (Fleiss' Kappa), or fair (Altman's Kappa), depending on which rating system is used.

The student essays after the WCs met the standards in the writing rubric. The benefit from the WCs moved students along the writing skills spectrum as 14% of the students moved from "Meets" to "Exceeds" in focus and 20% moved from "Meets" to "Exceeds" in style. Students at University B appear to be competent writers with more than 50% of them scoring "Exceeds" in grammar.

Table 5, however, does not tell the whole story of the benefits of the WCs in the tax class. As part of the university assessment program, the professor evaluated the tax memos using a tax rubric that she developed with professional accounting advisory board members the previous semester. The rubric emphasized content, professional appearance, and the logical organization of the essays (Appendix D). Since this was the second tax memo for the class, the students had a solid idea of how to write tax memos after the first round of WCs. For the second round of WCs, the students handed in their proposed solution before the WCs, which was graded. After the WCs, the students handed in a revised memo to also be graded.

During the second round of WCs, the unexpected happened. The students circled the key sentences and discussed the paragraphs, but then began debating the facts and potential solutions, socially constructing knowledge together. Once handed in, the tax memos were both better organized and proposed richer solutions.

The assessment for the pre-workshopped memos scored 64% exemplary and 36% as competent. After the WCs, 25% of the competent memos moved to exemplary, with 89% now exemplary and 11% as competent.

Because the professor felt that the WCs had served its purpose in class, she did not use WCs for the final tax memo. The grades for the third tax memos closely mirrored the distribution of the second memo with 81% assessed as exemplary and 19% as competent.

6.2.1. Study 2: Student satisfaction surveys at University B

Professor B asked students for feedback on the WCs (Appendix F). Per an anonymous survey, the WCs appeared to be helpful for the shorter, research-oriented tax memos. The results on the student satisfaction survey (Table 6) that were statistically significant included Q7: "opportunities to revise my work were helpful" ($p < .05$); Q8: "reading other students' tax memos helped me learn how to improve my memo" ($p < .05$); and Q10: "the techniques were easy to learn" ($p < .01$). As mentioned in the literature review, the students with weaker memos appeared to learn from the stronger students enabling them to improve their memos.

6.2.2. Student comments about WCs at University B

The written comments at University B were similar to the comments at University A when comparing WCs to the LC. Students complained once again about the difficulty of scheduling appointments at the LC. Many students had been to the LC

Table 5
Detailed assessment – rubric.

	Unattained	Meets	Exceeds
Objective 1: Focus			
Pre-WC	0%	76%	24%
Post-WC	0%	62%	38%
Objective 2: Style			
Pre-WC	3%	76%	21%
Post-WC	0%	59%	41%
Objective 3: Grammar			
Pre-WC	0%	43%	57%
Post-WC	0%	41%	59%

Table 6
University B – student satisfaction survey.

Questions (Q)	Writing Circles (n = 49)[+]
1. The tax memo assignment improved my writing skills.	3.51
2. The tax memo assignment helped me develop my critical thinking skills.	3.80
3. The tax memo assignment contributed to my learning course content.	3.78
4. The comments I received from my professor on my tax memo were useful.	3.69
5. The comments I received from my peers in the writing circle were helpful.	3.55
6. The tax memo assignment allowed me to interact with my classmates in the circles in a meaningful way.	3.78
7. Opportunities to revise my work were helpful.	4.08*
8. Reading other students' tax memos helped me learn how to improve my memo.	4.08*
9. Helping other students with their tax memos helped me learn how to improve my memo.	3.84
10. The techniques used in writing circles were easy to learn.	4.14**

[+] Students in one class. The Z-statistic was calculated to test for significance. Statistically significant $p < .01$** and $p < .05$*.

Table 7
Detailed assessment – rubric.

	Unattained	Meets	Exceeds
Objective 1: Focus			
Pre-WC	0%	67%	33%
Post-WC	0%	42%	58%
Objective 2: Style			
Pre-WC	8%	67%	25%
Post-WC	0%	42%	58%
Objective 3: Grammar			
Pre-WC	8%	25%	67%
Post-WC	0%	33%	67%

before, therefore they could speak to the benefits of the WCs. One student wrote, "*Because I got feedback from other accounting students who know the material. The LC is helpful, but they do not know content. The LC staff would not be able to give me accurate feedback.*"

Since students wrote tax memos on the same case, students could learn from one another. One student wrote, "*Taking advice from someone who is doing the assignment alongside you creates a different perspective than receiving feedback from an instructor.*" Some students thought it was fun socializing with other students writing, "*WCs are nice because you get to meet people in class you don't know …*"

Two stronger writers, however, wrote, "*I would have preferred to go to the LC as my classmates didn't give me much feedback.*" "*[A] con of WCs is the wide range of writing ability. The WC is not beneficial for someone who is at an advanced writing level.*"

Overall, the WCs were beneficial and encouraged active learning. As noted by one student, "*Sometimes too many opinions spark too much of a debate and [you] lose track of what was at hand.*" The professor, however, preferred seeing students engaged in a lively debate about tax laws rather than passively watching her lecture about the solution.

6.3. Study 3: Writing objectives at University C

The same two faculty evaluators that scored the GMAT case essays at University A evaluated the pre and post-WC project essays at University C. The evaluators scored essays using the writing rubric in Appendix C with three categories: (a) focus, (b) style, and (c) grammar. The inter-rater reliability score for the independent raters was 0.69 and is considered substantial (Koch-Kappa), intermediate to good (Fleiss' Kappa), or good (Altman's Kappa), depending on which rating system is used.

Students answered questions from the textbook and handed in their original essays. Then they attended the WCs and edited their memos. Raters did not know which essays were written before or after students attended their WCs.

As the evaluators scored the essays, they scored three students exceeding expectations in all three areas in the first essay. Thus, the scoring of the new essays remained the same. Three weaker writers did not edit their essays at all, meaning they may not have gone to the WCs. For six additional students, the WCs helped them improve their writing with the weakest writer moving from not meeting expectations to exceeding expectations in focus and style.

The reviewers first scored six essays, compared their results, and discussed the rubric for clarity. They then scored the remaining essays independently. Afterward, they met and discussed discrepancies in scoring and came to a consensus score for each essay. Per their analysis, all students met or exceeded all the writing objectives on the rubric after attending the WCs (see Table 7).

The faculty evaluators, not familiar with advanced accounting topics, were able to evaluate the writing using the rubric (supporting the notion that non-content experts can evaluate others' writing). The WC technique is designed to improve writing, not necessarily content, although that can be an outcome, as we saw at University B with the tax memos.

The benefit from the WCs moved students along the writing skills spectrum as 25% of the students moved from "Meets" to "Exceeds" in focus and 35% moved from "Meets" to "Exceeds" in style. By teaching students to write with key sentences followed by supporting sentences, student writing improves allowing professors to concentrate on grading content rather than grading writing.

6.3.1. Study 3: Student satisfaction surveys at University C

At the end of the semester, the professor at University C also measured students' perceptions of their experience with WCs with a survey (Appendix G). The results showed higher levels of satisfaction with the experience than at Universities A and B.

The results on the student satisfaction survey (Table 8) that were statistically significant included Q2, Q3, Q5, Q6, and Q7 at ($p < .01$) with the writing assignment contributing to students learning critical thinking skills, learning course content, the additional comments received from the WCs were helpful, opportunities to revise my work were helpful, and the amount of writing was reasonable. Q1 and Q4 were significant at ($p < .05$) for the course helped improve my writing skills and the com-

Table 8
University C – student satisfaction survey.

Questions (Q)	Writing Circles (n = 11) [+]
1. The course helped improve my writing skills.	4.00*
2. The course helped improve my critical thinking skills.	4.73**
3. The writing assignment contributed to my learning course content.	4.64**
4. The comments I received from my professor on my written work were helpful.	4.36*
5. The additional comments I received in the WC on my written work were helpful.	4.55**
6. Opportunities to revise my work were helpful.	4.82**
7. The amount of writing in the course was reasonable.	4.91**
8. I feel more confident about my writing abilities than I did when I entered the course.	4.00

The Z-statistic was calculated to test for significance. [+] Statistically significant at $p < .01$** $p < .05$*.

ments received from my professor were helpful. Since almost 25% to 35% of the class improved in writing, the high ratings for the WCs seem reasonable[5].

7. Conclusion

A primary objective of accounting education is to prepare students to succeed as professionals in accounting. The accounting profession expects graduates to demonstrate not only strong technical competencies but also soft skills such as writing, listening, and critical thinking. As part of this preparation, we should give students opportunities to practice writing in the accounting curriculum that is not burdensome for faculty (Booth et al., 1999).

WCs provide a fast, easy, and effective methodology designed to advance writing skills in accounting classes. Since WCs only take 15 min of class time to learn, student peer reviewers can help each other write better by evaluating key sentences. In some cases, students also learn content in WCs since students sit in the same classroom, completing the same assignments. Only a minority of students preferred going to the LC. Most students preferred the WCs methodology.

We used WCs at three universities and the evidence shows that about a quarter of students, not all, benefitted from the WCs. This is an incremental improvement, but improvement, nonetheless. Our key takeaways are:

- Professor A took 15 min of class time to train students and sat in the first WC outside of class to make sure the students followed the methodology because we were conducting this study. We found no statistical differences between groups that used the LC or WCs, except WCs seemed to improve grammar and students preferred them.
- Professor B took 15 min of class time to train students and allowed two 20-minute times in the class for students to participate in the WCs. She also took the extra time to observe what would happen in the WCs. Instead of lecturing (and telling students the solution), she found the students hashing it out, which she thought was a worthwhile learning activity. She skipped doing the third round of WCs, which was originally planned because she did not think another round would produce any further benefits. As a result, over 80% of students turned in "exemplary" tax memos.
- Professor C also only used 15 min of class time to model WCs. The students held the WCs out of class, but they were not policed. Thus, we suspect some students skipped the WCs because they submitted exactly the same essay pre and post-WCs. The evaluators had little trouble in identifying the pre and post-WC essays. It was obvious by reading them who had followed the directions and wrote their paragraphs in the prescribed manner.

Finally, satisfaction and enjoyment are also important components of any learning process. Siming, Niamatullah, and J., Xu, D., & Shaf, K. (2015) found the student–teacher relationship, teacher preparedness, experiences provided to students, and on-campus student support services are highly correlated to students' satisfaction in higher education. As mentioned in student-written comments, WCs also connect students both academically (in terms of working together to improve writing) and socially (by connecting students with shared experiences that can build lasting friendships). When students feel connected to their institutions academically and socially, they are more likely to graduate (Flanagan, 2006).

7.1. Implications for accounting education

WCs are not intended to give or replace expert advice but are designed to improve the writing and readability of a paper. If students are already good writers, they would likely prefer the help of expert tutors. And this is what students said in our study.

Therefore, back to our original premise, should writing skills be taught in accounting classes? Since learning to write takes many years to develop, reinforcing writing in accounting classes is likely a worthwhile exercise. With budget constraints looming, using WCs is cost-free, not requiring additional personnel. Also, with the trend towards online class delivery, the WCs format is easily transferable to an on-line platform. Given the technical nature of the accounting discipline, WCs

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[5] Qualitative comments were not collected on the survey.

can serve as a "win–win" situation for students and professors since both are time-constrained and LCs are labor constrained. Additionally, there is ample evidence that shows peer-editing works, so why not use it?

We found this to be the case in our study. In Study 1, we found no significant differences in the writing quality of students who participated in WCs from those who went to the LC, except with grammar. In Study 2, students flat out refused to go to the LC. The class used WCs which improved both style and focus of papers as well as allowing students to debate the answers with each other. In Study 3, the students seemed to know what they were writing about, but the WCs helped them better organize their papers.

Because of the prescriptive methodology, WCs provide scaffolding that allows the development of collaborative relationships among students. Washburn (2008) argues that students using peer review techniques improve their writing skills because of the friendlier atmosphere where participants focus more on learning than on feeling intimidated by their professors. We also found this to be true in this study.

Plutsky and Wilson (2001) advocated the development of writing standards to guide the integration of writing in accounting programs. This article provides the scaffolding needed for accounting faculty to move forward with added confidence when assigning writing projects. Since WCs seem to provide a more satisfying learning experience for students, we recommend teaching students this methodology early in their college education so they can use it in other classes with writing assignments. Finally, we would also like to see accounting education associations champion the development of accounting writing standards.

7.2. Limitations

Given the smaller sample sizes, the findings may not be generalizable to other accounting programs. Nonetheless, since we conducted three studies at three different universities, we are confident that other universities can expect to see similar improvements in student writing and paper readability as we did. Given this study and prior studies on peer review, our belief seems reasonable.

7.3. Future research

Although not tested, the peer interactions in WCs likely develop other soft skills such as editing and listening. Future research might measure skills beyond basic writing skills such as improved listening skills, editing, empathy, giving and receiving criticism, and developing coping strategies for dealing with criticism. Studies in these areas could also advance teaching strategies on how to develop additional competencies desired in future graduates.

Acknowledgments

Appendix A. . Student hand-out instructions for writing circles (adopted from Tara Gray, 2010)

Before or as you arrive:

- Write your thesis statement (if applicable) on the top of your paper.
- Make four copies of 2 or 3 pages of your writing assignment.
- In your own copy of the rough draft, find the key sentence for every paragraph.
- Be on time.
- Place your rough drafts face down so the first writer to arrive has his or her paper read first.

Before you start:

- Divide time evenly between writers (as in 3:00–3:15, 3:15–3:30, etc.).
- Appoint a timekeeper to help the group stick to your schedule.
- First time you meet, and as needed, review ground rules (below) for readers and writers.

Ground Rules:
Readers: Do not pass judgment on what you read. Tell the writer which sentence is the key sentence and why you think so or why you are unclear between two sentences. Remember that the main purpose of writing circles is to motivate the writer to want to write better. Asking, "Do you mean X or Y here?" is more motivating to a writer when saying, "This is unclear" because the writer doesn't intuitively know what is unclear or how to make it clear.
Writers: During the time that your paper is discussed, focus your attention on listening, asking questions, taking notes, and moderating. Moderating should be empowering and should help reduce the "sting" of having your work criticized.

Instructions for how to moderate are below, but the most important thing is this: avoid talking too much and explaining what you were trying to say. Instead, just look at the words on the paper and try to see your words through the reader's eyes.

Time Allocation:

First 5 min: Read and search for keys

- Readers: Identify a key sentence for each paragraph. If time allows, re-read only the key sentences (an after-the-fact outline) as you consider organization and purpose.
- Writers: Pretend you are just another reader and do the exact same things the other readers are doing.

Second 5 min (or more): Discuss keys

- The writer asks, "In paragraph #1, which sentence is the key (#2, #3, #4, etc.)?"
- If readers disagree, discussion ensues.
- If readers agree: The writer skips ahead to the next question, "What else in this paragraph?"
- Repeat for each paragraph.

Third five minutes (or less): Discuss other topics

The writer asks, "What works in this paper?" "What aspects should I keep as I make changes?"

Appendix B. Sample of students' writing with key sentence identified by peer reviewer

AIS case study

"To Steal or Not to Steal?"

Over a decade ago, Wal-Mart offered their customers a new option in the checkout process, the self-checkout. Self-checkout kiosks give customers the option to avoid potentially long lines at the traditional checkout by scanning and paying for their items on their own. While self-checkouts can reduce the number of employees needed at any given time, they can also increase the potential for theft. Some customers prefer to use self-checkout kiosks because they feel that the kiosks are more convenient and faster than traditional checkouts. However, removing the associate from the checkout equation increases the need for internal controls because the store is now depending on the integrity of its customers. Some controls that Wal-Mart uses are weighted bagging areas, cameras and employees observing and checking receipts as customers leave. The following case will discuss situations where internal controls failed at the self-checkout kiosks.

Background

Self-checkout kiosks at Wal-Mart are fairly simple. The customer scans the barcode of an item and then places the item into the bagging area. In the bagging area, the item placed in the bag is weighed to confirm that it meets the stores recorded weight for that item. Once the kiosk confirms that the item meets the stored weight, it allows the customer to scan the next item. If the customer has an item, such as apples, that needs to be weighed, they put the apples on the scanner, select the button on the screen to look up an item, and select the correct item. Once the customer has scanned and bagged all their items, they push a button on the screen to select a payment type. Self-checkout kiosks accept the same forms of payment as traditional checkouts. The customer selects the desired form of payment, follows the prompts on the screen, pays and receives their receipt. Finally, the customer can remove their items from the bagging area and exit the store. At Wal-Mart, an employee is stationed at the self-checkouts to assist with problems and as a theft deterrent.

AIS case study

Redd's Barbershop

Redd's Barber Shop in Tappahannock, Virginia, is a small family owned barber shop founded by two brothers, Redd and James Thornton. Starting out business was slow because it was a barbershop for elderly adults. Today they target the youth and young adults with the new fashionable haircuts and styles. In doing so, new positions need to be filled as soon as possible. In the hiring process issues are arising now concerning the several denied applications and interviews from elderly adults that applied for the positions. Redd's hiring managers did not consider the elderly applicants because they think the business may lose the younger clients. Some of the young client's parents were offended that the shop was denying those elderly applicants and decided to boycott in a response that they were unhappy. News is traveling fast and causing uproar between the community and the business. During this battle, Redd has become clueless about what to do because there has been a major decrease in the number of clients. After pondering of what to do Redd and James both decide to close the barbershop for a while.

Background

During the late 80′s Joe Thornton, the father of Redd and James, started cutting hair in his back yard for extra money on weekends. Joe kept this hobby for about ten years until he became sick. In the meantime, Redd told his brother James that they should partner together and start a barber business within their family, but James did not agree with him about the decision. Redd was determined to start this barber business in remembrance of his father even if he had to start the business on his own. Furthermore, Redd named the shop "Redd's Barbershop" and immediately began struggling with the start of

business because it was more work than he anticipated. James noticed his brother struggling and decided to help by agreeing to partner together with his brother. The two brothers decided to target the elderly because their father only cut his friends and other elderly family members' hair. Business consisted of a small number of clients for about five years because targeting only the elderly was not drawing many new clients into the shop. Surprisingly, given their prior disagreements, the two brothers came to a mutual agreement that their targeted group had to change.

Appendix C. Writing rubric for accounting assignments

Element	Does not meet expectations (0 or ½)	Meets expectations (1 or 1½)	Exceeds expectations (2)	SCORE
Focus	The subject and the main idea are unclear; There is no discernible main point. Partially or not developed.	The main idea is clear or clearly implied and the topic is partially limited. The key general number or types of key points or subtopics are mentioned.	The subject is identified. The main idea is clearly stated or implied. The topic is effectively limited. The key points that are developed are specifically named.	
Style	Sentence relationships must be inferred; word choice is often confusing; tone is inappropriate or distracting.	Sentences in paragraphs are subordinate to topics; word choice is almost accurate; tone is sometimes appropriate.	Sentences related to each other and to the paragraph topic and are subordinate to the topic. Word and phrase choice are consistent and accurate. Tone is consistent and appropriate.	
Grammar/ Mechanics	The essay is difficult to read. Many patterns of errors in grammar; frequently includes comma splices, run-ons, and/or fragments; numerous misspellings. Displays excessive monotony in sentence and/or rhetorical modes.	Mostly grammatically correct sentences, and has some comma splices, run-ons, and/or fragments, some misspellings. Demonstrates syntactic and verbal sophistication through an effective variety of sentence and/or rhetorical modes.	Grammatically correct sentences with an absence of comma splices, run-ons, fragments; Writing is absent of usage and grammatical errors and maintains accurate spelling. Demonstrates syntactic and verbal sophistication through an effective variety of sentence and/or rhetorical modes.	
TOTAL POINTS				

Appendix D. Writing rubric for tax research memos

Criteria	Exemplary Memo is ready to hand the client	Competent Memo needs slight revision	Unacceptable Memo needs major redo
Statement of issue	• Stated issue clearly and accurately • Stated issue in question form	• Stated issue but may not have been clear or may have included minor inaccuracies • State issue in question form or clearly attempted to state in question form	• Did not state issue in question form
A review of pertinent law sources	• Cited all relevant support that were on point (Code Section, Treasury Regulations, Cases) • Did not include support not on point	• Cited sufficient support that generally were on point • May have included some support not on point	• Did not cite support or cited insufficient support that were on point • May have included support not on point

Appendix D (*continued*)

Criteria	Exemplary Memo is ready to hand the client	Competent Memo needs slight revision	Unacceptable Memo needs major redo
Discussionof support	• Cited support in proper format • Fully and clearly discussed all support • Clearly explained relevance of support	• Generally cited support in proper format but may have included minor errors • Discussed support but may have omitted discussion of a case or some discussion may have been unclear or incomplete • Explained relevance of most support but may have been unclear	• Support, if cited, generally were not in proper format • Did not discuss support • Did not explain relevance of support
Conclusion	• Clearly stated conclusion that resolved the stated issue • Conclusion logically resulted from discussion • Could include presentation of alternate solutions	• Stated conclusion related to issue but may have been unclear or may not have resolved the stated issue • Conclusion generally resulted from discussion, but some logic may have been unclear	• Did not state conclusion or conclusion did not resolve stated issue • Conclusion generally not related to discussion

Appendix E. Accounting information systems satisfaction questionnaire

This semester you were required to write a fraud case in the AIS class. Your instructor gave you feedback on your fraud case. Additionally, you were randomly assigned to participate in a Writing Circle (WC) or to go to the Learning Center (LC).

Your honest answers are important. The answers will be coded, summarized, averaged and analyzed statistically. I will personally code the answers to maintain anonymity.

Please check one: I participated in a Writing Circle (WC) _____ or I attended the Learning Center (LC) _____

In addition to my professor's feedback and my participation in the WC or the LC, I received help to write my fraud case from _____.

The additional help I received was _____.

If you participated in the WC, do you think you would have preferred to go to the Learning Center instead? _____ Why?

If you were helped by the Learning Center, would you have preferred to participate in the WC? ___ Why?

Please share your opinion of the following statements by circling your choice (anchors: Strongly Disagree, Disagree, Uncertain, Agree, Strongly Agree).

1. This course helped improve my writing skills.
2. This course helped improve my critical thinking skills.
3. The writing assignment contributed to my learning course content.
4. The comments I received from my professor (LC) or peers (WC) on my written work were helpful.
5. The additional comments I received (WC or LC) on my written work were helpful.
6. I understood what was expected of me on writing assignments.
7. Opportunities to revise my work were helpful
8. The amount of writing in this course was reasonable.
9. The course examinations had appropriate writing exercises.
10. I feel more confident about my writing abilities than I did when I entered this course.

Expected semester and year of graduation: _____ Major: _____ Age: _____

Are you currently employed? __. If not currently employed, have you worked before? ___

Appendix F. Tax student satisfaction survey

This semester the class participated in writing circles. Please answer the following questions. Your honest answers are important. Your answers are confidential.

Please check one:

1. I participated in the writing circles (WC) Yes_____ / No _____
2. Which section are you in? Daytime (T, R) _____ / Evening (T) _____
3. What is your student code (only the GA will know your code until grades are distributed)?

You must place your code here so the GA will know who to tell the professor to give credit to:

4. Did you receive any help in addition to your professor's feedback and participation in the writing circle? Yes (please comment below) _____ / No _____

What type of help did you receive? _____

5. Have you been to the Writing Center before? Yes_____ / No_____ / Not sure _____

6. Think about your Writing Circle experience, would you have preferred to go to the Writing Center instead? Yes (please explain below) / No (please explain below) /Not sure.

Why or why not? _____.

7. How does the Writing Circles compare with going to the Writing Center? Pros and Cons?

8. Please share your opinion of the following statements by circling your choice (anchors: Strongly Disagree, Disagree, Uncertain, Agree, and Strongly Agree).

a) The tax memo assignment helped be improve my writing skills.
b) This tax memo assignment helped improve my critical thinking skills.
c) The tax memo writing assignments contributed to my learning course content.
d) The comments I received from my professor on my tax memo were helpful.
e) The comments I received from my peers in the Writing Circle were helpful.
f) The tax memo assignment allowed me to interact with my classmates in the circles in a meaningful way.
g) Opportunities to revise my work were helpful.
h) Reading other students tax memos helped me learn how to improve my memo
i) Helping other students with their tax memos helped me learn how to improve my memo.
j) The techniques used in the Writing Circle were easy to learn.

9. What are the benefits or pros of participating in the writing circles?
10. What are the cons of using the writing circles?
11. Do you think you might use the writing circle again on your own?
12. What other classes might benefit from Writing Circles and which assignments? Please be specific so I can share with other professors.
13. Question on demographics: GPA, age, race, graduation date, etc. follow.

Appendix G. Advanced accounting satisfaction survey

This semester you were required to write a written report. You received feedback from your instructor. Additionally, you were assigned randomly to participate in a Writing-Circle (WC). This questionnaire attempts to capture your evaluation of this learning process.

Your honest answers are important. The answers will be coded, summarized, averaged and analyzed statistically. I will personally code the answers to maintain anonymity. Other than your professor and yourself, nobody will have access to the final scores or your individual responses.

In addition to my professor's feedback and my participation in the WC, I received help to write my report from _____.

The additional help I received was _____.

On a scale of 0% to 100%, what percentage of improvement in your overall writing abilities do you think you experienced in this course from the FASB ASC report: _____ %.

On a scale of 0% to 100%, what percentage of improvement in your overall writing abilities do you think you experienced in this course by getting feedback from your professor: _____%.

On a scale of 0% to 100%, what percentage of improvement in your overall writing abilities do you think you experienced in this course by participating in a W-C _____ %.

Share your opinion of the following statements by typing one of the following choices after each statement: (1) Strongly disagree, (2) Disagree, (3) Uncertain, (4) Agree, (5) Strongly Agree).

1. This course helped improve my writing skills.
2. This course helped improve my critical thinking skills.
3. The writing assignment contributed to my learning course content.
4. The comments I received from my professor on my written work were helpful
5. The additional comments I received in the WC on my written work were helpful.
6. Opportunities to revise my work were helpful
7. The amount of writing in this course was reasonable.
8. I feel more confident about my writing abilities than I did when I entered this course.

Expected semester and year of graduation: _____ Age: _____
Are you currently employed? ____. If not currently employed, have you worked before? ____

Your answers will remain confidential and are for research purposes. Only you and your professor will have access to the individual data. Your responses will have no adverse effect on your grade. If you prefer that your answers not be used in the overall study, please check here: _____, otherwise, you are giving implicit permission to use your answers for research purposes.

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